

WHAT IS CLAIMED IS:

1. A center apparatus for recognizing images of a plurality of types of sheets for each sheet, comprising:

a sheet definition file to which information of image separation areas of the sheets is registered;

a storage for storing image data of a sheet to be processed;

a recognizing unit for separating, from image data of the sheets stored in the storage, areas specified by the information registered to the sheet definition file; and

terminals including a display for displaying image data separated and recognition data obtained by recognizing the image data by the recognizing unit, wherein

the display of the terminal displays the image data and the recognition data in parallel with each other corresponding to items set for each sheet.

2. A center apparatus according to Claim 1, wherein when it is determined that the sheet to be processed is a sheet formulated, the recognizing unit recognizes an ID of the sheet separated, separates, according to a result of the recognition of the ID, field data to be recognized, recognizes the field data separated, and thereby obtains image data including recognition data of thereof and the field data.

3. A center apparatus according to Claim 1,

further including a seal database to which seals are registered, wherein

when image data of the sheet separated by the recognizing section includes seals, a seal corresponding to a user recognized by the recognizing unit is acquired from the seal database and is collated with the seal separated.

4. A center apparatus according to Claim 3, wherein the seal collation includes a pattern matching between image data of a seal registered with image data of a seal print separated and whether or not the image data matches with each other is determined or similarity is calculated therebetween.

5. A center apparatus according to Claim 1, wherein the monochrome multi-value image displayed on the display of the terminal is used as an image of the seal on the sheet and the monochrome binary value image displayed on the display of the terminal is used as an image other than the seal on the sheet.

6. A center apparatus according to Claim 3, wherein the monochrome multi-value image is used as the image of the seal displayed on the display when the seal collation is conducted with a seal obtained from the seal database.

7. A center apparatus according to Claim 1, further including an image reader connected via a communication network to the center apparatus for reading an image of a sheet, wherein

image data of a sheet inputted from the image reader is edited into monochrome multi-value data and monochrome binary value data and the monochrome multi-value and binary-value data are sent via the communication network to the storage of the center apparatus.

8. A center apparatus according to Claim 1, wherein the terminal includes:

an editing unit for editing the image data separated and the recognition data for each sheet; and
a database for storing an edit result edited by the editing section.

9. A center apparatus according to Claim 8, wherein the editing unit stores, when it is required to correct the recognition data, the recognition data corrected together with the image data of the sheet.

10. A center apparatus according to Claim 8, the image data separated and stored in the database includes monochrome multi-value image data.

11. A center apparatus according to Claim 1, further including an image reader connected to the center apparatus for reading image of a sheet to be processed, wherein

the storage includes a message queue buffer for storing the image data of the sheet sent from the image reader and for accumulating a result of recognition of the image data.

12. A center apparatus according to Claim 1,

further including data entry terminals to be operated by an operator for confirming contents of the sheet, wherein

an image of a sheet and a recognition result thereof for which a transfer request is not issued from the data entry terminals to the center apparatus is kept stored until a transfer request is issued from the data entry terminal.

13. A center apparatus according to Claim 1, wherein the recognizing unit includes:

a character sheet recognizing unit including a plurality of processing sections for images of a sheet to be processed; and

a sheet recognition macro unit for selectively calling a processing sections of the character sheet recognizing unit.

14. A center apparatus for recognizing contents described on a sheet to be processed, comprising:

a storage for storing image data of the sheet in the form of monochrome binary value image data and monochrome multi-value image data;

a recognizing unit for separating, from the image data in the storage, the monochrome binary image data as image data in a specification area to be recognized and for recognizing contents thereof according to the monochrome binary image data as image data separated; and

a display for displaying, for items necessary

for recognition on the sheet, monochrome binary value image data stored in the storage and recognition data recognized by the recognizing unit in parallel with each other and for displaying, for items necessary for visual confirmation on the sheet, monochrome multi-value image data stored in the storage.

15. A center apparatus according to Claim 14, further including a definition information storage for storing information of a definition of a specification area to be recognized in the image data in the storage; wherein

the recognizing unit separates, according to information set in the definition information storage, image data in a specification area to be recognized and recognizes contents at a particular position of the image data separated.

16. A center apparatus according to Claim 14, further including:

an input unit for receiving a correction input or a confirmation input for the recognition result displayed on the display;

an editing unit for editing, for each sheet, image data separated by the recognizing unit and the recognition result or the recognition result corrected; and

a sheet database for storing a result of the editing by the editing unit.

17. A center apparatus according to Claim 15,

further including:

an input unit for receiving a correction input or a confirmation input for the recognition result displayed on the display;

an editing unit for editing, for each sheet, image data separated by the recognizing unit and the recognition result or the recognition result corrected; and

a sheet database for storing a result of the editing by the editing unit.

18. A sheet recognition method for recognizing a plurality of types of sheets, comprising the steps of:

recognizing whether or not the sheet is an ID sheet including an ID at a predetermined part thereof, separating, if the sheet is an ID sheet, an image of an area according to a format of the ID sheet, and recognizing contents thereof;

recognizing, if the sheet is other than an ID sheet, whether or not the sheet is a barcode sheet including a barcode, separating, if the sheet is a barcode sheet, an image according to a format of the barcode sheet, and recognizing contents thereof;

recognizing, if the sheet is other than a barcode sheet, whether or not the sheet is an MICR sheet including a barcode, separating, if the sheet is an MICR sheet, an image according to a format of the MICR sheet, and recognizing contents thereof; and

receiving, if the sheet is none of the sheets

above as a result of the recognition, information to identify the sheet, separating an image according to a format of a sheet format corresponding to the information of identification, and recognizing contents thereof according to the image separated.

19. A sheet recognition method according to Claim 18, wherein the ID sheet recognizing step includes:

separating an image of an area specified by information of definition identifying a sheet type;
identifying whether or not the sheet is an ID sheet;

recognizing, if the sheet is an ID sheet, an ID number thereof;

recognizing a lower attribute corresponding to the ID number recognized; and

separating an image of an area specified by format definition information of the lower attribute and recognizing characters of the image separated.

20. An image reader for reading an image of a sheet, comprising:

a scanner for reading a sheet;

a processing unit for converting data of a seal of the image data read by the scanner into monochrome multi-value image data and for converting data thereof necessary for recognition into monochrome binary value image data; and

a transmitting unit for transmitting the monochrome multi-value image data and the monochrome

binary value image data via a communication network.

21. A sheet handling system including an image reader for reading an image of a sheet and center apparatus connected via a communication network to the image reader, wherein

the center apparatus includes a recognition server including a recognizing unit for recognizing image data of the sheet sent from the image reader and a message queue buffer for storing in a unit of sheet the recognition data recognized by the recognizing unit and the image data of the sheet and data entry terminals connected to the recognition server, the data entry terminal being operated by an operator,

the recognition server recognizes whether or not a transfer request is received from either one of the data entry terminals, and determines, if the transfer request is present, whether or not image data and recognition data to be transferred are present in the message queue buffer,

the recognition server transfers, if the image data and the recognition data are present, the image data and the recognition data to the data entry terminal having issued the transfer request, and

the recognition server sends a response indicating that there exists no data to be transferred, to the data entry terminal having issued the transfer request.